

## REMARKS

### **I. Status of the claims**

Claims 2, 3, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 28, 29, 30, 31, 32, and 34 are pending. Claims 2, 3, 5, 6, 7, 8, 9, and 11 are allowed. Claims 10-14, 28-32, and 34 are rejoined and are no longer in withdrawn status. That is, Groups II and III are rejoined. See the U.S. PTO Petition Decision dated July 13, 2005.

Claims 14 and 34 are canceled without prejudice or disclaimer. Claims 1, 15-27 and 33 were previously canceled without prejudice or disclaimer. Applicants reserve the right to file one or more continuing applications to the canceled subject matter.

Claims 5, 10, 11, 12, 13, 28, 29, 30, 31, and 32 are amended simply to ensure correct antecedent basis and to represent chemical structures and to avoid dependency from multiple preceding claims.

No new matter is introduced by way of any amendment and, therefore, Applicants request their entry. No claim is added.

### **II. Summary of telephone interview of November 21, 2005**

Applicants thank Examiner Rahmani and her supervisor, Examiner Margaret Seaman, for extending to the undersigned the courtesy of a telephone interview on November 21, 2005. At that time, Applicants' representative (a) discussed the inappropriate withdrawal of claim 10, (b) requested clarification of the basis for rejecting the claims under Section 112, first paragraph, (c) asked Examiner Rahmani to elaborate on the nature of the claimed macromonomers and polymers thereof, and (d) noted that since claim 1 is canceled, the objection under 37 C.F.R. 1.75 that it is a duplicate of pending claim 34 is inappropriate.

In response to (a), Examiner Rahmani confirmed with Examiner William R. Dixon, who granted Applicants' Petition, that the withdrawal of claim 10 in the present office action is inappropriate and in error. For this reason, Examiner Rahmani placed a telephone call to

the undersigned on November 23, 2005, to relate that claim 10 should be grouped with the rejoined claims.

In response to (b), Examiner Rahmani related that claims 11 and 12 improperly depend from numerous preceding claims, and that there is no antecedent basis for “cross-linked” or “beaded” polymers in the claims.

In response to (c), Examiner Rahmani said she believes that the polymer of claims 12-14 and 28-32 cover “all polymers not limited to PEG.”

In response to (d), Examiner Seaman clarified that it is claim 6, not claim 1, that is deemed to be a substantial duplicate of claim 34.

**III. The claimed polymers are polymerized from polyethylene glycol-based macromonomers, which contain reactable oxetane groups**

Applicants would point out that the presently claimed invention is drawn to (1) a class of polyethylene glycol-based monomers and (2) polymers made from those monomers. The monomers come in three forms:

- (i) a polyethylene glycol chain (6-300 units) with an oxetane moiety at either end;
- (ii) a polyethylene glycol chain (6-300 units) with an oxetane moiety at one end and a free hydroxy group at the other end; and
- (iii) a trifoil-like molecule having three joined polyethylene glycol chains (each of 6-300 units) where at least one of its three terminal groups is an oxetane moiety.

The monomer forms (i) and (ii) are exemplified in claim 2, while the trifoil-like monomer of (iii) is exemplified in claim 3.

These monomers react with one another to form polymers. Specifically, when subjected to a hydroxy-induced nucleophilic attack, the conformationally restrained oxetane moiety is broken open to yield chemical arms that facilitate polymerization. The opening up of the oxetane moiety naturally creates another reactive hydroxy group, which, logically,

induces another nucleophilic attack, thereby opening up another oxetane group, and so on. Hence, this property of oxetane enables the monomers to join together to form a polymer. For example, the cross-linked polymer shown in claim 11 is formed when monomers (i) and (ii) are so reacted with one another.

Accordingly, it is incorrect for Examiner Rahmani to contend that “in the specification, the only disclosed polymer is polyethylene glycol capped with oxetane group” (office action at page 2; emphasis added). Applicants stress that it is the disclosed macromonomers, which actually carry oxetane moieties, *not* the disclosed polymers. As pointed out above, these oxetane units are consumed during the polymerization reaction; hence, they are not present in the finalized polymer. For instance, claim 13 covers a polymer that is formed when the PEG-based, trifunctional macromonomer of claim 3 is polymerized.

In this respect, the presently claimed invention does not relate to polyethylene glycol polymers, *per se*, but to polymers that are made from the claimed monomers which all contain polyethylene glycol chains. Thus, since the claimed polymers are made from the PEG-based or PEG-containing macromonomers of claims 2 and 3, the polymers are polymeric forms of that polyethylene glycol base.

**IV. The rejection of the claims under 35 U.S.C. § 112, first paragraph should be withdrawn in light of Applicants’ remarks and claim amendments**

Applicants’ amendments ensures there is no issue concerning incorrect antecedent basis in the pending claim set.

Furthermore, Applicants’ explanation in the preceding subsection makes clear that the polymers obtained by polymerization of the claimed macromonomers contain polyethylene glycol chains. Hence, contrary to the Examiner’s contention, claims 12-14 and 28-32 are *not* “claiming all polymers not limited to PEG” (office action at page 2).

Accordingly, Applicants respectfully request that the Examiner withdraw the rejection of claims 12-14 and 28-32 under Section 112, first paragraph.

### CONCLUSION

Applicants believe that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested. Also, the Examiner is invited to contact the undersigned if he feels that a telephone interview would advance prosecution.

Date January 5, 2006

FOLEY & LARDNER LLP  
Customer Number: 22428  
Telephone: (202) 672-5404  
Facsimile: (202) 672-5399

Respectfully submitted,

By V.S. Mohan Ram  
#55,459 V. MOHAN RAM  
Stephen A. Bent  
Attorney for Applicant  
Registration No. 29,768